

## ABSTRACT

To realize a low bit rate while maintaining the image quality as much as possible despite using an image compression standard predicated on a high bit rate which is becoming the industry standard. Effective compression by B-pictures enabling use of bidirectional prediction is only possible when the image quality of the P-pictures immediately before and after is maintained to a certain extent. When the bit rate is extremely low, the image quality of the P-pictures is poor, so effective compression cannot be performed by B-pictures and the image quality of the P-pictures further deteriorates resulting in a vicious cycle. When the average quantizer scale of B-pictures reaches the maximum value in the state 0, it means that the compression efficiency of the B-pictures has fallen, so the coder shifts to the state 1 and switches to coding at  $M=1$  and not using the B-pictures. Since interval between P-pictures is one frame when  $M=1$ , the prediction efficiency becomes higher than in the case of  $M=3$  considering only P-pictures. When shifting to a state 2, state 3, and state 4, pictures to be forcibly skipped successively increase and the amount of information generated is further suppressed.